

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-020228**Date Inspected:** 03-Feb-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Jobsite**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS OBG**Summary of Items Observed:**

On this date CALTRANS OSM Quality Assurance Inspector (QAI) Bert Madison was present at Yerba Buena Island in California between the times noted above for observations relative to the work being performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below.

- 1). Longitudinal Stiffener (ALS) Splices at OBG Field Splice 2W/3W (SMAW)
- 2). Deck Access Hole (DAH) Long. Stiffener West (LSW) Splice at OBG 3W PP19.5 5W
- 3). Deck Access Hole (DAH) Insert Weld at OBG 2W PP13.5 W5 (SMAW Interior R-1 Repairs)
- 4).Deck Access Hole (DAH) Insert Weld at OBG 3W PP19.5 W5 (SMAW Exterior R-1 Repairs)
- 5).Deck Access Hole (DAH) Insert Weld at OBG 3W PP23.5 W2 (SMAW Exterior R-1 Repairs)
- 6). OBG Field Welding of West Line Lifting Lug Hole (LLH) Inserts (SMAW)
- 7). OBG Field Splice of 8W/9W Weld ID: F1, Face B (QC UT)

- 1). Longitudinal Stiffener (ALS) Splices at OBG Field Splice 2W/3W (SMAW)

ALS-3

The QAI periodically observed AB/F approved welder Xiao Jian Wan (ID 9677) at OBG Field Splice 2W/3W ALS-3 performing welding of butter passes per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position. See photo below. QC Inspector Gary Ehram was present periodically to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1012-3. The QAI observed that the butter pass welding was completed and the work at this location appeared to be in general compliance with contract documents.

- 2). Deck Access Hole (DAH) Long. Stiffener West (LSW) Splice at OBG 3W PP19.5 5W

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LSW

The QAI periodically observed AB/F approved welder Hua Qiang Hwang (ID 2930) at OBG 3W PP19.5 5W performing welding of the LSW per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position. Fill and cover pass welding was performed first from the South face utilizing ceramic backing. Back grinding and subsequent root, fill and cover passes from the North face were completed at this location during the QA Inspectors Shift. QC Inspector Gary Ehram was present periodically to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1012-3. The QAI observed the work at this location appeared to be in general compliance with contract documents.

3). Deck Access Hole (DAH) Insert Weld at OBG 2W PP13.5 W5 (SMAW Interior R-1 Repairs)

The QAI periodically observed AB/F approved welder Wen Han Yu (ID 6317) performing R-1 repair welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position on the interior of the DAH Insert Weld at OBG 2W PP13.5 W5. QC Inspector Gary Ehram was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. Welding of what appeared to be one continuous excavation extending for the entire circumference of the insert was in process and the QAI observed the work at this location appeared to be in general compliance with contract documents.

4).Deck Access Hole (DAH) Insert Weld at OBG 2W PP13.5 W5 (SMAW Exterior R-1 Repairs)

The QAI periodically observed AB/F approved welder Wai Kitlai (ID 2953) performing R-1 repair welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position on the exterior of the DAH Insert Weld at OBG 2W PP13.5 W5. QC Inspector Gary Ehram was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. Welding of four excavated areas was completed and welding of a fifth area was in process. The QAI observed the work at this location appeared to be in general compliance with contract documents. The QAI observed that the repair areas excavated had the following dimensions and the following Y locations:

#1 - Y = 715mm, Length = 130mm, Depth = 14mm, Width = 25mm.

#2 - Y = 915mm, Length = 180mm, Depth = 16mm, Width = 30mm.

#3 - Y = 1525mm, Length = 70mm, Depth = 11mm, Width = 20mm.

#4 - Y = 2985mm, Length = 90mm, Depth = 12mm, Width = 25mm.

#5 - Y = 3295mm, Length = 1800mm (extending from Y = 3295mm through Y = 0mm and then to Y = 715mm), Depth = 3-4mm, Width = 25mm. (Welding at this location was in process).

5).Deck Access Hole (DAH) Insert Weld at OBG 3W PP23.5 W2 (SMAW Exterior R-1 Repairs)

The QAI periodically observed AB/F approved welder Jin Pei Wang (ID 7299) performing R-1 repair welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position on the exterior of the DAH Insert Weld at OBG 3W PP23.5 W2. QC Inspector Steve McConnell was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. Welding of four repair areas was completed and excavation of one indication (Indication #1) from the interior was in process at the end of the shift. The QAI observed the work at this location appeared to be in general compliance with contract documents. The QAI observed that the repair areas were numbered by QC and the excavations had the following dimensions and the following Y locations:

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Indication #2 - Y = 630mm, Length = 95mm, Depth = 16mm, Width = 25mm

Indication #3 - Y = 2060mm, Length = 10mm, Depth = 15mm, Width = 25mm

Indication #4 - Y = 2820mm, Length = 85mm, Depth = 16mm, Width = 20mm

Indications #5 & 6 - Y = 3285mm, Length = 80mm, Depth = 16mm, Width = 20mm

6). OBG Field Welding of West Line Lifting Lug Hole (LLH) Inserts (SMAW)

Exterior: OBG 3W PP22 W3 welds 3 and 4

The QAI periodically observed AB/F approved welder Mike Jimenez (ID 4671) performing fit-up, tack welding and root, fill and cover pass welding of OBG 3W PP22 W3 welds 3 per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position. See photo below. QC Inspector Steve Jensen was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1050A CU rev. 0. Welding was completed and Mr. Jimenez began performing fit-up operations at weld 4 at the same location. The work was in process and the QAI observed that the work appeared to be in general compliance with contract documents.

7). OBG Field Splice 8W/9W Weld ID: F1, Face B (QC UT)

The QAI periodically observed QC Inspector Jesse Cayabyab performing UT from the B Face of OBG Field Splice 8W/9W. The QAI randomly observed that Mr. Cayabyab utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the transverse splice weld. The QC technician performed the required shear wave testing during the testing for weld soundness utilizing a .63 x .75 rectangular transducer. The UT examination was completed during the QA Inspectors shift and the QAI observed that work at this location appeared to be in general compliance with contract documents.

In addition to the photographs below QA documented most of the above noted observations in the form of digital photographs which are maintained by METS and are available upon request.



Summary of Conversations:

Conversations on this date with Quality Control Inspectors were general in nature and pertained to locations of welding and QC activities and locations of welds released to the QAI for verification testing.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Sang Le (916) 764 5650, who represents the Office of Structural Materials for your

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project.

Inspected By: Madison,Bert

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer